Yashodha Ravichandran

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EDUCATION

DREXEL UNIVERSITY   Expected Graduation: June 2025
Master of Science in Computer Science   *Philadelphia, PA*

DREXEL UNIVERSITY   June 2023
Bachelor of Science in Computer Science   *Philadelphia, PA*
Concentrations: Artificial Intelligence, Data Structures and Algorithms; **Minor:** Software Engineering

EXPERIENCE

DREXEL UNIVERSITY, COLLEGE OF COMPUTING AND INFORMATICS   January 2023 – Present
Teaching Assistant   *Philadelphia, PA*
- Mentored 150+ college students taking undergraduate courses at the College of Computing and Informatics
- Supervised and managed student attendance for weekly labs
- Graded homework submissions from students and provided them with timely feedback for further improvement

BLOCK ENTROPY   July 2024 – Present
Machine Learning Engineer   *Wynnewood, PA*
- Implemented open-source inference pipelines for generative vision and language models using Huggingface transformers and vLLM along with Outlines for structured outputs
- Examined transformer based language models for research projects
- Authored a research paper on privacy-preserving generative AI for inference in cloud-hosted model environments

TEMPLE UNIVERSITY, LEWIS KATZ SCHOOL OF MEDICINE   April 2022 – September 2022
Brain Computer Interface Research Assistant   *Philadelphia, PA*
- Developed brain EEG signal-based applications for people with ALS by cloning OpenVibe source code (OSS)
- Evaluated using verbal controls against integration of Google Assistant API with gRPC and Protobuf
- Conducted beta-stage testing for voice-triggered smart home environment control applications
- Ran a text-to-speech system alongside OpenVibe to interpret user language into valid commands using Python gTTS and created an interface to modify these commands using GTK and Tkinter

BRISTOL-MYERS SQUIBB COMPANY   April 2021 – September 2021
Data Protection Analyst   *Princeton, NJ*
- Built and tested full-stack web applications to query BMS employee data using LDAP, Flask, and HTML in collaboration with the Identity Access Management team
- Tracked and flagged 200+ confidential file downloads by users by writing and modifying SQL and NoSQL queries
- Monitored daily security alerts for data loss and opened support tickets for violators
- Collected monthly team progress metrics and shared findings with the entire team

SUSQUEHANNA INTERNATIONAL GROUP, LLP   May 2020 – September 2020
Information Security Engineer   *Bala Cynwyd, PA*
- Implemented PowerShell scripts utilizing REST APIs to automate the creation of support tickets cutting down response times by 20%
- Analyzed malware samples to extract indicators of compromise that could be blocked for the future
- Investigated custom security alerts that fired daily on Qradar to determine if they were confirmed incidents or false positives
- Identified over 100+ malicious emails and scoped campaigns based of them from users' submissions

PUBLICATIONS

- Shrestha, M., **Ravichandran, Y.**, Kim, E. (2024). *Secure Multiparty Generative AI.* ArXiv.org. https://arxiv.org/abs/2409.19120
- Sahal, M., **Ravichandran, Y.**, Feldman, G., Heiman-Patterson, T., & Ayaz, H. (2022, November).*Design of Smart Assistant Integrated Brain Computer Interface for Environmental Control by PALS.* In MUSCLE & NERVE (Vol. 66, pp. S33-S33). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.
- Sahal, M., Feldman, G., **Ravichandran, Y.**, Ayaz, H., Feldman, S., & Heiman-Patterson, T. (2022, November). *Design of a Quasi-Static Neck Brace for PALS with Dropped Head Syndrome.* In MUSCLE & NERVE (Vol. 66, pp. S34-S34). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.

- Huynh B., Kowalcyzkı,M., Karnes S., Valk H., Sahal M., Ashish R., **Ravichandran Y.**, Feldman G., Mastronardo A., Heiman-Patterson T., & Ayaz H. (2022, November).*Characterizing ALS disease progression using surface electromyography: a feasibility Study.*, In MUSCLE & NERVE (Vol. 66, pp. S34-S34). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.

CONFERENCE PRESENTATIONS

- Sahal M., Bunker T., **Ravichandran Y.**, Feldman G., Heiman-Patterson T., & Ayaz H. (2023, March). *A Smart-Assistant & Augmented-Reality Display integrated BCI Targeting At-home Use for People Living with ALS.*, presented at *NEBEC, Philadelphia, PA.*

PROJECTS

WIKIPEDIA ARTICLE SUMMARIZATION | *Developer*   May 2024 – June 2024
- Developed a seq2seq LSTM model for abstractive summarization of Wikipedia articles
- Evaluated model results against a co-occurence based baseline method

BARD | *Frontend Developer*   September 2022 – June 2023
- Designed and built a cross-platform (Android, iOS and Web) audio soundboard companion application for Dungeons and Dragons players using React Native
- Connected frontend pages by making React fetch API calls to a Java Spring Boot backend

SKILLS

Languages: Python, Java, HTML, CSS, JavaScript, TypeScript, C++, MySQL, PowerShell, Racket, React Native

Tools: Git, Flask, Node.js, Docker, AWS, PyTorch, Visual Studio, IntelliJ, Vim, Bash

ACTIVITIES

DREXEL GRADUATE WOMEN IN SCIENCE AND ENGINEERING   June 2023 – Present
Social Media Chair, Master's Liaison   *Drexel University*
- Designed visually appealing posts and stories to encourage student participation in club activities
- Managed all DGWiSE social media accounts to promote upcoming events

DREXEL WOMEN IN COMPUTING SOCIETY   September 2022 – Present
Tech Chair, Member   *Drexel University*
- Planned and hosted technical workshops with a committee of 3 Tech chairs for 50+ college students
- Coordinated with 30 officers to promote and record event attendance
- Supported the smooth operation of outreach events for girls from local high schools with other student organizations such as Drexel Society of Women Engineers (Drexel SWE) and Drexel Graduate Women in Science and Engineering (DGWiSE)

DREXEL SOCIETY OF ARTIFICIAL INTELIGENCE   June 2022 – Present
Member   *Drexel University*
- Attended weekly club meetings and worked on club projects with topics related to AI and ML
- Participated in discussions on topics related current advancements and trends in the industry

DRAGONS TEACH   April 2019 – June 2019
Student Teacher   *Drexel University*
- Taught two inquiry-based math lessons in Philadelphia high schools
- Modified lesson plans for classes to strengthen understanding of concepts for students

PROFESSIONAL DEVELOPMENT

- Drexel Certificate in College Teaching, September 2023 – Present

AWARDS AND HONORS

- The Future of Online Learning Challenge Winner, Philly Codefest, 2022
- Dean's List, Drexel University, Fall 2018, Spring 2019